

THE IDENTIFICATION OF INDIAN BUTTERFLIES.

BY LIEUT.-COLONEL W. H. EVANS, D.S.O., R.E., F.Z.S., F.E.S.

PART IV.

(With 5 plates.)

(Continued from page 707 of this Volume.)

F. Nymphalidæ.—The Nymphalids. Key to genera.

- 1a (51a). Hindwings channelled to receive abdomen.
 1b (48a). F v12 not swollen.
 1c (18a). Larva, where known, smooth and the head with horns. Palpi with no long projecting hairs.
 1d (4a). F v8 from before the middle of v7. Eyes smooth. Palpi smooth and white. Antennæ longer than half costa, club gradual. F cell closed and upper apex right angled. Body stout.
 1e (3). F costa serrate. H pre-costal as a spur forward. Larva with 4 horns on the head.
 1 (2). H cell closed.
Charaxes, Ochs. The Rajahs. (Plate 17).
 2 (1). H cell open.
Eribœa, Hub. The Nawabs. (Plate 17).
 3 (1e). F costa smooth. H pre-costal curved back.
Prothoe, Hub. The Begums. (Plate 17).
 4a (1d). F v8 never from before the middle of v7.
 4b (14a). F upper end of cell opposite well before the origin v3.
 4c (9a). Palpi white or brown throughout. Antennæ longer than half costa.
 4 (5a). F upper end of cell obtuse; v10 ex 7; cell open. Eyes smooth. Antennæ club sharply spatulate.
Helcyra, Fd. The White Emperor. (Plate 17).
 5a (4). F upper end of cell right angled or acute; v10 ex cell. Antennæ club stout, gradual.
 5 (6a). Cells closed. Eyes hairy. F v9 from well beyond end cell. H pre-costal forked. Forelegs hairy.
Dilipa, M. The Golden Emperor. (Plate 18).
 6a (5). Cells open.
 7 (7a). F v3 much shorter than the mv. Genitalia of ♂ protruding. Eyes hairy.
Eulaceura, M. The Elegant Emperors. (Plate 18).
 7a (6). F v3 nearly equal to the mv. ♂ genitalia not protruding.
 7 (8). F origin v8 nearer termen than origin v9. Eyes smooth or hairy. Larva with 2 horns.
Apatura, F. The Emperors. (Plate 18).
 8 (7). F origin v8 nearer origin v9 than termen. Eyes smooth.
Heronæ, Db. The Pasha. (Plate 18).
 9a (4c). Palpi black or black and white. Antennæ equal to half the costa. Cells open. H pre-costal mostly straight.
 9b (12a). F v10 ex 7. Larva with 2 horns.
 9 (10a). Palpi very long, black with a white tip.
Sephisa, M. The Courtiers. (Plate 18).
 10a (9). Palpi short, only white at base.
 10 (11). Eyes smooth.
Euripus, Wd. The Courtesans. (Plate 18).
 11 (10). Eyes hairy.
Diagora, Snell. The Sirens. (Plate 18).
 12a (9b.) F v10 ex cell. Eyes smooth. Palpi mostly black.
 12 (13). F end v 12 long before origin of v9.
Hestina, Wd. The Circe. (Plate 18).

F. Nymphalidae.—Key to genera.—(contd.).

- 13 (12). F v12 ends after the origin of v9.
Sasakia, M. The Empress. (Plate 18).
- 14a (4b). F upper end cell opposite origin of v3 or beyond. Cells closed.
 Antennæ and palpi black.
- 14b (16a). F upper end of cell right angled. H pre-costal straight or curved
 back.
- 14 (15). F lower dev straight. Antennæ equal to one-third costa. Eyes
 hairy. H v8 ends before apex.
Calinaga, M. The Freaks. (Plate 21).
- 15 (14). F lower dev highly curved. Antennæ equal to half the costa.
 Eyes smooth. H v8 ends at apex as usual.
Penthema, Wd. The Kaisers. (Plate 21).
- 16a (14b). F upper apex of cell acute. Eyes hairy.
- 16 (17). H pre-costal straight. Antennæ longer than half costa.
Dichorragia, But. The Constable. (Plate 19).
- 17 (16). H pre-costal curved forward. Antennæ shorter than half costa.
Stibochiona, But. The Popinjay. (Plate 19).
- 18a (1b). Larva not smooth.
- 18b (30a). Larva with tubercles, never with more than a few rows of spiny
 processes. Palpi and antennæ never black.
- 18c (20a). Larva on either side with a complete row of very long horizontal
 pinnate processes. Eyes and palpi smooth. F upper end cell opposite beyond
 the origin of v3, right angled or acute. Pre-costal well curved forward and
 arises from well before the origin of v8. F origin v11 from far before the end
 of the cell, opposite origin v2. Antennæ longer than half costa, club gradual.
- 18 (19). F cell, if closed, lower dev ends at origin v3.
Euthalia, Hub. The Barons, Counts, etc. (Plates 19-20).
- 19 (18). F cell closed and lower dev ends well beyond origin v3.
Adolias, Hub. The Archdukes. (Plate 20).
- 20a (18c). Larva without long horizontal pinnate spines.
- 20b (27a). Larva without long horns on the head.
- 20c (22a). H pre-costal from beyond origin v8. Eyes smooth. Cells closed.
 F upper apex cell acute and far beyond opposite origin v3.
- 20 (21). Palpi with thin long hairs. H pre-costal forked at end. F v9
 distorted and arises just before 8.
Parthenos, Hub. The Clipper. (Plate 21).
- 21 (20). Palpi smooth. H pre-costal curved forward. F vs 9, 10, 11
 distorted, but 9 rises well before 8.
Lebadea, Fd. The Knight. (Plate 21).
- 22a (20c). H pre-costal rises from origin v8. Antennæ club slender.
- 22b (26a). H v8 reaches apex. Palpi smooth. H pre-costal curved for-
 ward.
- 22 (23a). F v1 highly sinuous, vs 9 and 10 distorted. Cells closed. Eyes
 smooth. Antennæ equal to half costa.
Neurosigma, But. The Panther. (Plate 21).
- 23a (22). F v1 straight.
- 23 (24a). F lower dev highly concave. H cell open or shut; F shut. Eyes
 smooth. Antennæ equal to half costa.
Abrota, M. The Sergeant-major. (Plate 21).
- 24a (23). F lower dev nearly straight. Antennæ equal to or longer than
 half costa. Eyes smooth or hairy. Cells open or shut.
- 24 (25). F upper end cell opposite origin v3 or beyond.
Liminitis, F. The Admirals, etc. (Plates 21-22).
- 25 (24). F upper end cell before opposite origin v3.
Pantoporia, Hub. The Sergeants. (Plate 22).

F. Nymphalidae.—Key to genera—(contd.)

26 (22b). H v8 not to apex. Cells open. Eyes smooth. Palpi hairy. F upper end cell opposite far beyond origin v3; v10 ex cell or 7. H pre-costal straight.

Neptis, F. The Sailors and Lascars. (Plate 22).

27a (20b). Larva with very long horns on the head and very few processes on the body. Cells shut. Eyes smooth. H pre-costal from beyond origin v8. Palpi smooth. Antennæ equal to half costa, club slender.

27b (29). F v9 not to apex. Palpi very long.

27 (28). F v10 ex cell; vs 10 & 11 free.

Cyrestis, Bdv. The Maps. (Plate 23).

28 (27). F v10 ex 7; vs 10 & 11 anastomosed.

Chersonesia, Dist. The Maplets. (Plate 23).

29 (27b). F v9 to apex; v10 ex cell. Palpi comparatively short.

Pseudergolis, Fd. The Tabby. (Plate 23).

30a (18b). Larva spiny with many rows of spines or knobs (Melitæa). F upper end cell opposite origin v3.

30b (35a) Palpi smooth and abnormally long. Eyes smooth. Larva with 2 stout branched horns on the head. Antennæ equal to half the costa, club gradual.

30 (31a. 33a). H not tailed. F apex produced, termen rounded, but apex broadly truncate and termen concave just below.

Hypolimnas, Hub. The Eggflies. (Plate 23).

31a (30. 33a). H shortly tailed at v4 and lobed at v1. F apex sharply truncate and falcate.

31 (32). Cells closed.

Yoma, Doh. The Lurcher. (Plate 23).

32 (31). Cells open. F termen highly concave in middle and convex between vs 1 & 2.

Rhinopalpa, Fd. The Wizard. (Plate 23).

33a (30-31a). H long tail at v1 only.

33 (34). Cells open. F upper apex of cell right angled (acute in rest of group). F apex broadly truncate and concave below; convex above tornus.

Doleschallia, Fd. The Autumn Leaf. (Plate 23).

34 (33). Cells closed. F. apex sharp pointed, termen highly convex opposite v2.

Kallima, Bdv. The Oakleaves. (Plate 23.)

35a (30b). Palpi not abnormally long and usually more or less hairy.

35b (47). Claws normal and with appendages.

35c (41a). F lower dev, if present, ends well beyond origin v3. Larva with no horns on the head.

35d (37a). F ends vs 6, 7, 8, 9 in a straight line.

35 (36). Eyes smooth. Palpi smooth. Cells open. Antennæ equal to half costa, club gradual or sharply spatulate.

Precis, Hub. The Pansies. (Plate 24).

36 (35). Eyes hairy. Palpi more or less hairy. Cells closed. Antennæ longer than half costa, club gradual, stout.

Vanessa, F. The Tortoise Shells, etc. (Plate 24).

37a (35d). F ends vs 6, 7, 8, 9 not in line, 9 well back.

37b (39a). Eyes hairy. Antennæ equal to half costa, club stout, gradual. Cell F closed, H open.

37 (38). Palpi hairy.

Araschnia, Hub. The Mongol. (Plate 24).

38 (37). Palpi smooth.

Symbrenthia, Hub. The Jesters. (Plate 24).

39a (37b). Eyes smooth. Antennæ equal to or longer than costa, club

F. Nymphalidæ.—Key to genera—(contd.)

abruptly spatulate. Palpi hairy.

39 (40). H cell closed. F upper end cell acute or right angled, opposite beyond origin v3; v10 ex 7 or cell. Larva spiny.

Argynnis, F. The Fritillaries. (Plate 24).

40 (39). H cell open. F upper end cell right angled or obtuse, opposite origin v3; v10 ex 7. Larva with humps.

Melitæa, F. The Small Fritillaries. (Plate 24).

41a (35c). F lower dcv ends before, at or only just beyond the origin of v3.

41b (46). Eyes smooth. Palpi with long fine hairs at the sides.

41c (44a). F v10 ex 7, v9 ends on costa and v8 behind a line joining the ends of vs 6 and 7. Larva head hornless.

41 (42a). H cell open. F origin v10 well beyond origin v7, v8 very short.

Antennæ equal to half costa, club absent.

Cupha, Hub. The Rustic. (Plate 25).

42a (41). H cell closed. F origin v10 just beyond origin v7. Antennæ equal to half costa, club moderate.

42 (43). H no spur from the angle of v4.

Atella, Db. The Leopards. (Plate 25).

43(42). H with a spur from the angle of v4 towards v5.

Issoria, Hub. The Vagrant. (Plate 25).

44a (41c). F v10 ex cell, v9 ends on apex behind a line joining the ends of vs 6, 7, 8. H with a spur or fold from the angle of v4 towards v5. H cell open. Larva with or without horns.

44 (45). F lower dcv ends at or just beyond the origin of v3. Antennæ longer than half the costa, club gradual.

Cynthia, F. The Cruiser. (Plate 25).

45 (44). F lower dcv ends before the origin of v3. Antennæ equal to half the costa, slender and clubless.

Cirrochroa, Db. The Yeomen. (Plate 25).

46 (41b). Eyes hairy. Palpi smooth. H with fold in the wing from the angle of v4 towards v5. Cells closed. F v10 ex cell; v9 ends at apex behind the line joining the ends of 6, 7, 8. Antennæ equal to half the costa, club gradual.

Terinos, Bdv. The Assyrian. (Plate 25).

47 (34b). Claws very long and without appendages. Eyes smooth. Palpi white with long thin black hairs. Antennæ equal to half the costa, no club. Cells closed. F v10 ex 7, from well beyond end cell. Larva with 2 fine horns.

Cethosia, F. The Lacewings. (Plate 25).

49a (1b). F v1 swollen. Larva spiny with 2 thin horns on the head. Eyes smooth. Palpi slender, smooth. Antennæ equal to half the costa. Cells closed.

48b (50). Posterior tibiæ and tarsi with rows of spines.

48 (49). Antennæ club sharply spatulate. Apex F not truncate.

Byblia, Hub. The Joker. (Plate 25).

49 (48). Antennæ slender, clubless. Apex F truncate.

Ergolis, Bdv. The Castors. (Plate 25.)

50 (48b). Posterior tibiæ and tarsi without rows of spines. Antennæ slender and clubless. Apex F truncate.

Laringa, M. The Dandies. (Plate 25).

51a (1a). Hindwings not channelled to receive the abdomen. Antennæ hardly as long as half the costa. Palpi sparsely hairy. Eyes smooth. Wings sparsely scaled.

51 (52). Antennæ club gradual. H v7 ex 6.

Pareba, Db. The Yellow Coster. (Plate 25).

52 (51). Antennæ club short, abrupt. H v7 ex cell.

Telchinia, Hub. The Tawny Coster. (Plate 25).

F1. Charaxes.—The Rajahs. (Plate 17).

1a (7). Above tawny or chestnut. ♂ more or less toothed and ♀ tailed at v4.
 1 (2a). Uph margin broadly pale greenish white, bearing a central series of black rings. Bases chestnut brown, outer half of F dark brown, bearing 2 rows of crescentic white markings.

durnfordi nicholi, GrS. (95-115). The Chestnut Rajah. Assam—S. Burma. VR.

2a (1). Uph margin not broadly pale.

2b (6). Unf costa not silver white at base.

2 (3a). ♂ upf border broad black, never with tawny spots at the apex; ♀ with broad white discal band. Below purple tawny.

α. Upf black border immaculate, border broad, equal to one-third of the wing at the dorsum; ♂ never with pale discal band, basal area uniform tawny with only a black bar at end cell. ♀ white discal band immaculate, reaches costa. ♂ with a tail at v4 H.

polyxena psaphon, Wd. (90-112). The Tawny Rajah. Ceylon. R.

β. As last, black border narrower. In DSF ♂ some tawny markings appear on the border upf towards tornus.

**polyxena imna*, But. (90-100). S. India—Orissa. NR.

γ. ♂ upf black border with tawny markings from dorsum to v2 or 3; uniform tawny with a black discal line and bar at end cell. ♀ discal band yellowish white and on inner side of border there are some pale tawny spots inwardly bordered by a lunular line; pale discal band not quite to costa and always with 2 black spots in middle in 5 and 6. ♂ only toothed H.

polyxena hemana, But. (85-100). Mussoorie—Kumaon. R.

δ. As last, but very variable; ♂ with several well marked varieties. ♀ discal band white and pale spots on the border mostly white. Typical ♂ with no pale band upf and uph white dots in centre of black spots along border.

polyxena hierax, Fd. (80-100). Sikkim—N. Burma. C.

♂ v. *corax*, Fd. No pale band: white spots uph on inner edge of the black spots.

♂ v. *hindia*, But. Upf pale discal band; base fulvous and margin spotted.

♂ v. *hipponax*, Fd. Upf pale band; base fulvous to dark, margin not spotted.

♂ v. *pleistoanax*, Fd. Upf pale band; base dark, margin white spotted and uph with the white discal band from F continued to v3 or 4.

ξ. ♂ upf with no pale discal band; discal line usually absent; very like *corax*. Below darker and more variegated.

**polyxena agna*, M. (80-100). Karens—S. Burma. NR.

3a (2). ♂ upf black border narrow, bearing tawny spots reaching to the apex and inwardly bordered by a lunular dark line. ♀ never with a pale discal band;

3 (4a). Upf apical spots not above v6. Below purple tawny.

aristogiton, Fd. (70-95). The Scarce Tawny Rajah. Sikkim—Burma. R.

4a (3). Upf tawny apical spots into 6. Below ochreous.

4 (5). Below more or less uniform and markings regular; unf black bar mid cell macular; unh dark discal line beyond cell more or less straight, except just beyond end cell. In WSF central band darker.

marmax, Wd. (90-120). The Yellow Rajah. Kumaon—Burma. R.

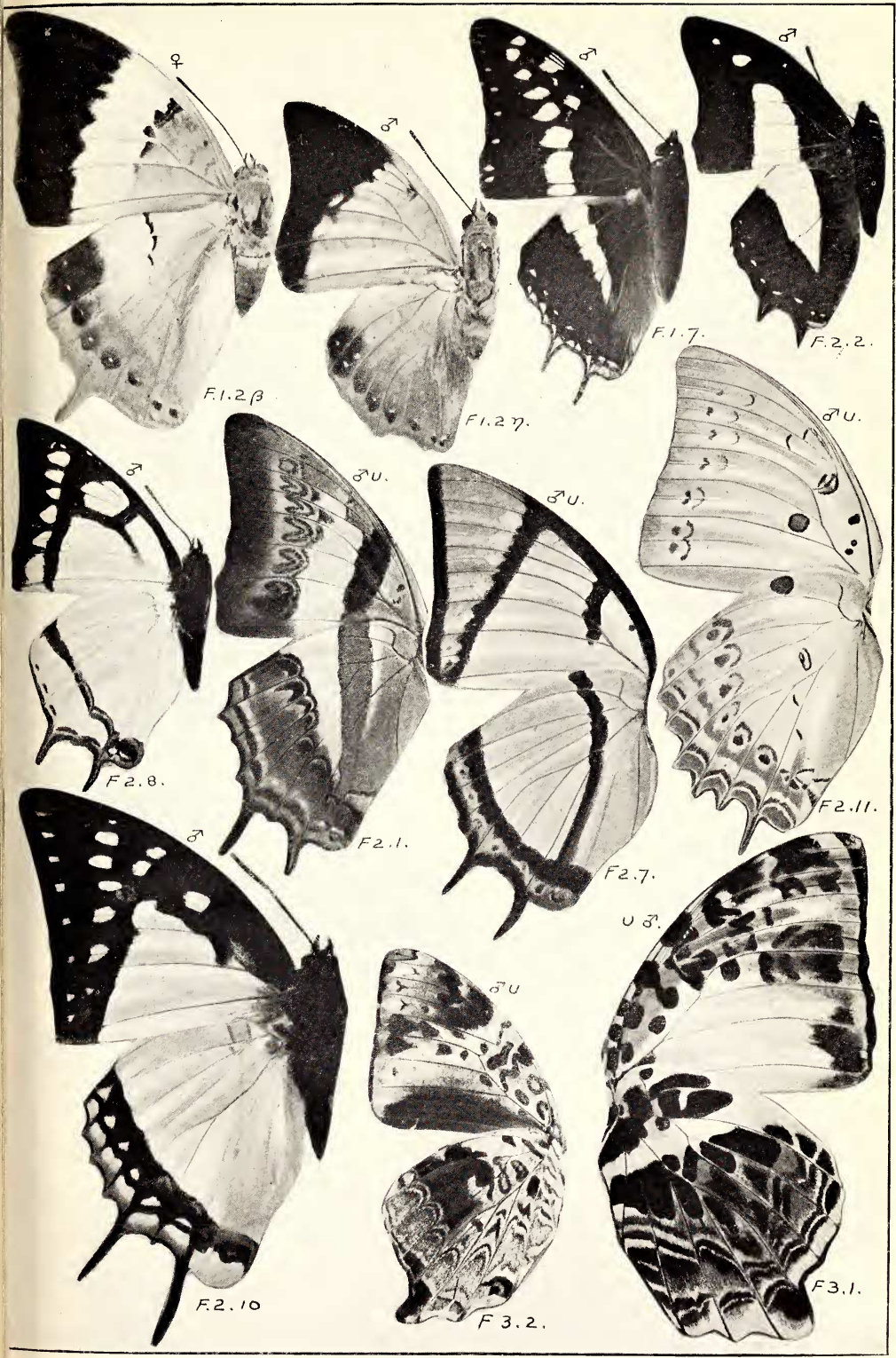
5 (4). Below markings prominent and irregular central band much darker. Unf all cell bars entire; unh dark discal line very irregular and broken, highly concave in 6.

kahruba, M. (90-120). The Variegated Rajah. Kumaon—Burma. R.

6 (2b). Unf with a silver white bar at the base of the costa. Above much as No. 3. Below tawny.

distanti, Hon. (90-120). The Silver-edged Rajah. VR.

7(1a). Above dark brown with a yellow or whitish discal band. H long equal tails at vs 2 and 4.



F. Nymphalidae. 1. Charaxes : 2. Eriboea : 3. Prothoe.

F1. Charaxes.—(contd.)

α. Above pale band narrow and dark yellow.

fabius cerynthus, Fruh. (70-80). The Black Rajah. Ceylon. NR.

β. Above pale discal band wide, dark in WSF, pale in DSF.

**fabius fabius*, F. S. India—Kangra—Sikkim. NR.

γ. Above pale discal band wide and sulphur yellow; H spotting on termen wider.

fabius sulphureus, Roth. Assam—Burma. R.

F2. Eribœa.—The Nawabs. (Plate 17).

1a (4a). Above dark brown with a broad pale discal band, which does not reach the dorsum H. Uph termen with small white spots on the outer edge of the broad dark border.

1 (2a). Unh dark basal band passes through the outer half of the cell. Above discal band white, broadly blue edged.

α. Upf discal band continued evenly to v5, with 2 adjacent spots beyond in 5 and 6.

**schreiberi wardi*, M. (90-100). The Blue Nawab. S. India VR.

β. Upf discal band tapers at the upper end and just reaches 4; white spot in 5 much nearer apex and with an apical dot in 6.

schreiberi assamensis, Roth. Assam—N. Burma. VR.

γ. Upf as last, but discal band not into 4, detached spot in 5 very small and spot in 6 absent.

schreiberi tisamenus, Fruh. Karens—S. Burma. Andamans. VR.

2a (1). Unh dark basal band passes through inner half of cell. Above discal band not blue edged.

2 (3). Above discal band pale yellow, width varies greatly with the season; races only very slightly differentiated.

α. Small, band broad.

athamas madeus, Roth. (60-75). The Common Nawab. Ceylon. C.

β. Larger, usually 2 pale sub-apical spots upf.

athamas agrarius, Swin. S. India. C.

γ. Large and very variable.

**athamas athamas*, Dr. Kulu—N. Burma. C.

δ. Smaller and darker.

athamas samatha, M. Karens—S. Burma. C.

ε. Much larger and very dark.

athamas andamanicus, Fruh. Andamans. C.

3 (2). Above discal band pale greenish white. Three seasonal forms as in last and width band varies very considerably with the season.

arja, Fd. (75-85). The Pallid Nawab. Sikkim—Burma. NR.

4a (1a). Above pale yellow or greenish yellow, base H never dark; F with broad black apex.

4b (11). Unh dark discal band through basal half of cell meeting post-discal band at tornus.

4c (7a). Unf curv dark band from base through end cell to sub-marginal lunular band. Upf single pale spot on black apex.

4 (5a). Upf black margin not decreasing towards tornus.

moori sandakanus, Fruh. (80-85). The Malayan Nawab. Sikkim—Burma. VR.

5a (4). Upf black margin decreasing markedly in width towards tornus.

5 (6) Unh pale area covers more than half wing.

jalysus, Fd. (75-85). The Yellow Begum. Karens—S. Burma. R.

6 (5). Unh pale area covers less than half wing.

hebe chersonesus, Fruh. (75-85). Victoria Point. VR.

7a (4c). Unf broad bar end cell extending to base v2; sub-marginal band

F2. Eribœa.—(contd.)

continuous, not lunular and nearer cell.

7b (9a). Upf costa dark chocolate brown; upf single row pale spots on margin.

7 (8). Upf and Unf no broad bar from end cell towards discal band. Uph sub-marginal dark band bearing pale spots along the outer edge and blueish lunules along the inner edge.

a. Smaller and paler.

dolon dolon, Wd. (80-90). The Stately Nawab. Kulu—Kumaon. R.

β. Upf pale spots smaller and shorter.

dolon centralis, Roth. (85-95). Nepal, Sikkim, Bhutan. R.

γ. Upf spots larger than in a. Uph sub-marginal band narrow and blue-lunules small.

**dolon magniplaga*, Roth. (95-105). Assam—N. Burma. R.

δ. Uph more deeply scalloped and uph blue sub-marginal lunules more prominent.

dolon grandis, Roth. (95-110). Shan States—Karens. R.

8 (7). Upf and unf broad dark bar from lower end cell along 3 to the discal band, enclosing a large pale spot beyond end cell; spots on margin increase in size to tornus. Uph with a postdiscal dark band.

a. Larger. Usually a postdiscal pale spot in 7 upf. Uph sub-terminal narrow dark bars in spaces up to 6.

**narcœa aborica*, Evans. (70-75). The China Nawab. Abor Valley. R.

β. Smaller. Upf no spot in 7. Uph sub-terminal dark bars obsolete above 3.

narcœa lissainet, Tyt. (70-75). Naga Hills. R.

9a (7b). Unf costa white and upf with sub-marginal as well as postdiscal row spots. Uph band as in No. 7. Up and unf bar from lower end cell towards discal band as in No. 8, but much shorter.

9 (10). Upf 2 pale spots end cell; dark margin becoming obsolete at tornus.

nepenthes, Gr S. (80). The Shan Nawab. Shan States. VR.

10 (9). Upf single pale spot end cell and 2 spots beyond.

a. Large. Seasonal forms differ much in size and size of spots.

eudamippus eudamippus, Db. (100-120). The Great Nawab. Kumaon—Assam. NR.

β. Upf cell all black or very nearly so.

**eudamippus nigrobasalis*, Jathy. N. Burma. N.R.

γ. As a, but smaller. Uph no blue border to band and outer white spots larger.

eudamippus jamblichus, Fruh. Karens—S. Burma. R.

11 (4b). Below no dark bands; large spots end cells, base 2 F and mid costa H; sub-marginal row reddish spots preceded by a blue line and on H followed by a greenish yellow line as well as a terminal blue and greenish yellow line. Above broad black apex bearing one or two pale spots and on H sub-terminal blueish, white centred, line.

**delphis*, Db. (95-100). The Jewelled Nawab. Assam—Burma. NR.

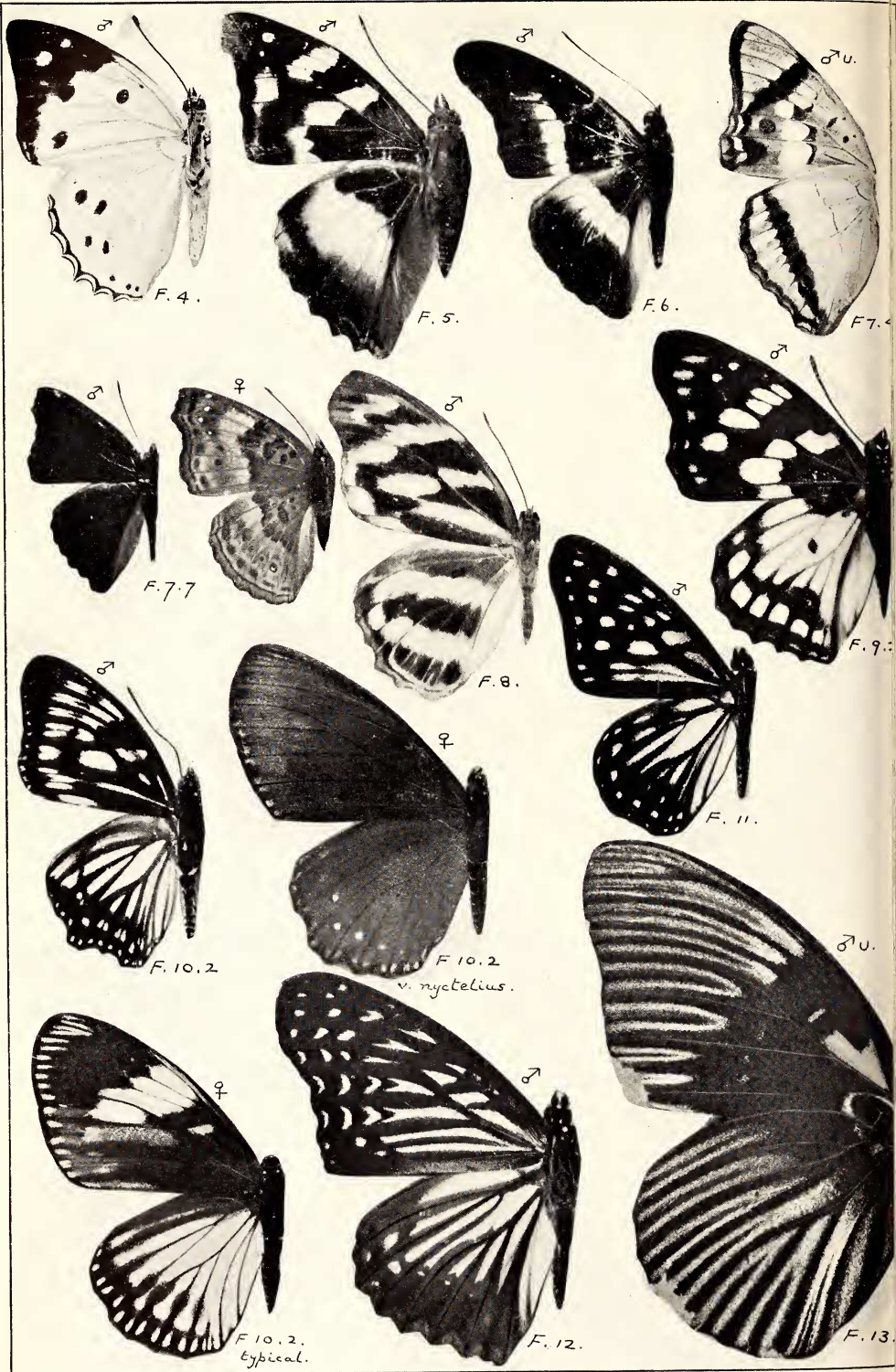
F3. Prothoe.—The Begums. (Plate 17).

1 (2). Above pale yellow, broad black apex and margins. Below variegated red and black. F lower dev evenly curved.

**calydonia belisama*, Crow. (110-120). The Glorious Begum. Karens—S. Burma. VR.

2 (1). Above dark brown with a blue band F. Below variegated dark brown and whiteish; H with broad greenish marginal lunules. F lower dev highly concave at lower end.

a. Upf blue band very broad and not marked with white; complete series terminal blue spots, upper 2 being white.



F. Nymphalidae. 4. *Helcyra* ; 5. *Dilipa* ; 6. *Eulaceura* ; 7. *Apatura* ; 8. *Herona* ; 9. *Sephisia* ; 10. *Euripus* ; 11. *Diagora* ; 12. *Hestina* ; 13. *Sasakia*.

F3. Prothoe.—contd.

frankii regalis, *But.* (70-80). The Blue Begum. Manipur, Upper Assam. VR.
 β. Upf blue band narrow and centrally with white splashes; white marginal spots only in 5, 7 and 8.

**frankii angelica*, *But.* Karens—S. Burma. R.

F4. Helcyra.—The White Emperor. (Plate 18).

Above glazed white; upf black spots in cell and 1, broad black apex with 2 white spots; uph with a few irregular black discal spots. Below only a thin discal line of black lunules.

**hemina*, *Hew.* (65-75). The White Emperor. Sikkim—Burma. R.

F5. Dilipa.—The Golden Emperor. (Plate 18).

Above dark brown, ♂ with golden bronzy, ♀ with white, central and discal spots F and whole disc H; upf 2 white apical dots.

**morgiana*, *Wd.* (70-80). The Golden Emperor. Kashmir—Shan States. R.

F6. Eulaceura.—The Elegant Emperors. (Plate 18).

1 (2). Above transparent pale brown, with dark brown costa F and large spot in 2 as well as margins and discal band H.

manipuriensis, *Tyt.* (75-80). Tytler's Emperor. Manipur. VR.

2 (1). Above dark brown with a continuous white discal band, extending on F from dorsum to 3. Below as in last, glazed pale violet brown with an ocellus in 2 F and H.

**osteria kumana*, *Fruh.* (65-70). The Elegant Emperor. S. Burma. R.

F7. Apatura.—The Emperors. (Plate 18).

1a (6a). Unf no row of minute sub-apical white dots in 5, 6 and 8.

1b ((3a). Unf no black spots in cell.

1 (2). Upf single discal pale band, macular in ♂ continuous in ♀, in addition to the white apical spots. Above dark brown, no pale band H. Below ocellus in 2 F and H fulvous ringed; dark discal line white edged at upper end.

a. Upf discal band white. Uph ocellus in 2 prominent. Below pale brown.

sordida sordida, *M.* (60-70). The Sordid Emperor. Sikkim—N. Burma. R.

β. Upf discal band yellow tinted. Uph ocellus in 2 absent. Below pale greenish brown.

sordida naga, *Tyt.* Nagas. R.

(1). Upf 2 pale discal bands in addition to the apical spots. Unh dark discal line pale edged throughout. Above dark greenish brown; ♂ upf markings tawny and inner band crosses cell; ♀ markings white or yellowish white, inner band not crossing cell.

a. Upf outer discal band continuous. Uph mostly tawny; unh complete row postdiscal ocelli.

ulupi ulupi, *Doh.* (65-70). The Tawny Emperor. Upper Assam. VR.

β. Upf outer discal band broken at v4. Uph ♂ only tawny in 5 and 6; ♀ postdiscal spots well defined in 5 and 6. Below pale greenish white.

ulupi florenciae, *Tyt.* Nagas. R.

3a (1b). Unf with black spots in cell.

3 (4a). Upf 2 discal bands; no sub-marginal spots F or H. Above dark brown and tawny, shot blue in ♂. Below pale tawny, prominent pale discal band unh, no sub-marginal dark band.

ilia here, *Fd.* (70-80). The Tawny Purple Emperor. Shan States. VR.

F7. *Apatura*.—(contd.)

4a (3). Upf single white discal band in addition to the apical spots, nearly always sub-marginal pale spots H and often on F. Below bluish white, prominent ferruginous discal and terminal band F and H, which on H meet at apex and tornus.

4 (5). Upf no white streak in cell from base. ♂ above shot brilliant blue.

a. Very large. Blue gloss duller; white markings broad and diffused; upf discal band to v11. Unh ocellus in 2 absent. Uph sub-marginal white markings very large.

ambica chitralensis, *Evans.* (75-90). The Indian Purple Emperor. Chitral—Kashmir. NR.

β. Smaller and all markings more sharply defined. Variable and liable to aberrations.

**ambica ambica*, *Koll.* (65-75). Kashmir—Shan States. NR.

5 (4). Upf with white streak in cell from base, sub-marginal spots prominent. ♂ very obscurely blue shot. Uph with white discal band from mid costa to base 1. Body prominently white banded. Very like a *Pantoporia*. (F. 25)

chevana, *M.* (75-80). The Sergeant Emperor. Sikkim—N. Burma. R.

6a (1). Unf prominent small sub-apical white dots in 5, 6 and 8. F end cell opposite origin v3. Club antennæ narrow. Unf prominent spots in cell.

6 (7). Above dark ochreous brown; uph with a straight yellow band; upf discal band of yellow spots, apical spots continued to 3 and a prominent black spot in 2. Eyes hairy.

parvata, *M.* (50-60). The Brown Prince. Sikkim—Assam. R.

7 (6). Above ♂ velvet black, unmarked except for white apical dots. ♀ ochreous brown with a paler discal band, which on H is always irregular.

a. ♂ upf with 3 apical dots.

parisatis camiba, *M.* (45-50). The Black Prince. Ceylon. NR.

β. As last, rather larger. ♀ paler and with pale bands prominent.

parisatis atacinus, *Fruh.* S. India. NR.

γ. ♂ upf single apical dot. ♀ much darker.

**parisatis parisatis*, *God.* Kumaon—Burma. NR.

F8. *Herona*.—The Pasha. (Plate 18).

Above dark brown with 2 yellow or white discal bands F and H and a basal streak in 1 F. Unf conspicuous white streak in outer half of 5 to termen.

a. Above bands tawny, very wide and confluent.

**marathus marathus*, *Db.* (70-90). The Pasha. Sikkim—Shan States. NR.

β. Above bands tawny and narrow; discal bands H and outer band F macular.

marathus angustata, *M.* Karens—S. Burma. R.

γ. As last but bands in ♂ whitish and in ♀ white.

marathus andamana, *M.* Andamans. NR.

F9. *Sephisa*.—The Courtiers. (Plate 18).

1 (2). Above dark brown with 2 tawny bands F; H tawny with black veins and a dark postdiscal band. In ♀ upf the apical spots are whitish.

dichroa, *Koll.* (60-75). The Western Courtier. Chitral—Kumaon. NR.

2 (1). ♂ above outer discal band and apical and sub-marginal spots white; typical ♀ mostly blue; 2nd form ♀ spots as ♂, but all white except for a yellow spot in cell and on H the tawny colour is replaced by white; 3rd form ♀ as first but with white apex upf.

**chandra*, *M.* (75-90). The Eastern Courtier. Sikkim—Karens. NR; ♀ VR.

♀ v. *albina*, *Evans.* VR.

♀ v. *chandrana*, *Evans.* R.

F10. Euripus.—The Courtesans. (Plate 18).

1 (2). Unh with red basal markings. ♂ H red sub-marginal spots in 1a to 3 a. Darker. H vs broader black and black discal band continued in ♂ to costa, also traceable in ♀; F discal band narrow.

consimilis meridionalis, WM. (60-85). The Painted Courtesan. S. India. R.

β. Pale markings broader. Uph black discal band only traceable in ♂. Unf dark discal band prominently broader at lower end.

consimilis consimilis, Wd. Dun—Dawnas. R.

2 (1). Unh no red basal markings. ♂ black with pale spots as in No 1. ♀ in several forms; typical form with a broad white band upf and uph all white except for a narrow sub-marginal brown band.

**halitherses*, Db. (65-85). The Courtesan. Sikkim—Burma. NR.

♀ *v. isa*, M. As typical form, outer half uph dark brown. NR.

*♀ *v. nyctelius*, Db. Upf dark brown with apex broadly suffused bluish; uph all dark brown. NR.

♀ *v. cinnamoneus*, WM. As last, but uph outwardly with white streaks. R.

♀ *v. alcatheoides*, DeN. As *nyctelius*, but upf all dark brown. VR.

F11. Diagora.—The Sirens. (Plate 18).

1 (2). Upf black bar mid cell; unh dorsum not yellow.

a. Paler, white markings wider.

persimilis zella, But. (65-75). The Siren. Simla—Kumaon. R.

β. Darker, white markings narrower. Apex F more produced.

**persimilis persimilis*, Wd. Sikkim—Assam.

2 (1). Upf no black bar in cell. Unh dorsum yellowish. Development of black markings very variable.

mena, M. (75). The Scarce Siren. Dalhousie—Mussoorie. VR.

F12. Hestina.—The Circe. (Plate 18).

Upf with broad black veins and spotted borders. Uph veins and border broad bright chestnut.

**nama*, Db. (95-105). The Circe. Mussoorie—Burma. NR.

F13. Sasakia.—The Empress. (Plate 18).

Above black, outer half with prominent pale streaks; upf narrow red basal streak in cell, which unf is much wider; unh some basal red markings below costa.

**funebri*, Lecch. (125-130). The Empress. Nagas. VR.

F14. Calinaga.—The Freaks. (Plate 21).

a. Only fore part of thorax above orange. Unh dull ochreous.

buddha buddha, M. (90-105). The Freak. Murree—Kumaon. VR.

β. Darker. Unh pale brown. F more elongated.

buddha gautama, M. Sikkim. VR.

γ. Above all pale markings very reduced, sharply defined and clear, not diffused as usual.

buddha aborica, Tyt. Abor Valley. VR.

δ. All thorax above orange. Dark with the pale markings reduced. Unh pale slate.

**buddha brahma*, But. Assam—N. Burma. R.

η. All thorax orange above. Uph tornus broadly orange.

buddha sudassana, Melvill. Shan States—Karens. VR.

F15. Penthema.—The Kaisers. (Plate 21).

1 (2a). Upf dark brown with pale yellow spots; large basal streaks in 2 and

3. Upf cell all yellow; sub-marginal and discal spots small, preceded by streaks.

F15. *Penthema*.—(Contd.)

- a. Below reddish brown. DSF with apex produced.
 **lisarda lisarda*, Db. (125-135). The Yellow Kaiser. Sikkim—Manipur. R.
 β. Below dull brown.
lisarda mihintala, Fruh. Chin Hills. R.
 2a (1). Upf black with a blue sheen and all spots bluish; basal streaks in 2 and 3 replaced by spots; all markings smaller. Uph sub-marginal spots shaped like arrow-heads.
 2 (3). Uph cell with yellow streaks followed by postcellular streaks, separate from discal spots. Upf long streak in 1.
darlisa, M. (125-135). The Blue Kaiser. Shan States—S. Burma. R.
 3 (2). Uph cell all black.
 a Upf long streak in 1. Uph postcellular streaks conjoined to discal spots.
binghami yoma, Ellis. (125-135). The Black Kaiser. Pegu Yoma. VR.
 β. Upf no streak in 1. Uph no postcellular streaks.
binghami binghami, W.M. Dawnas. VR.
 γ. Upf no streak in 1. Uph postcellular streaks conjoined to discal spots.
binghami merguie, Evans. Mergui. VR.

F16. *Dichorragia*.—The Constable. (Plate 19).

Dark green with small whitish spots F and very prominent zigzag sub-marginal line, single in ♂, double in ♀.

**nesimachus*, Bdv. (65-85). The Constable. Kulu—Burma. NR.

F17. *Stibochiona*.—The Popinjay. (Plate 19).

♂ above velvet black, ♀ darkgreen; upf white spotted and with a dull blue sub-marginal line; uph prominent row sub-marginal black spots, inwardly blue (♀ green) bordered and outwardly white.

a. Uph width of white edging narrower than width of black spots; wider in DSF.

nicea nicea, Gray. (60-80). The Popinjay. Kulu—N. Burma. NR.

β. Uph width of white edging twice as wide as the black spots.

**nicea subucula*, Fruh. Karens—S. Burma. NR.

F18. *Euthalia*.—The Barons, Counts, etc. (Plates 19 & 20).

1a (27a). Unh base with 2 spectacle marks in cell, outer one extending to base 5, small ring base 6 and a larger one base 7; these markings variable and may be obscure or absent.

1b (18a). Unf cell entirely open.

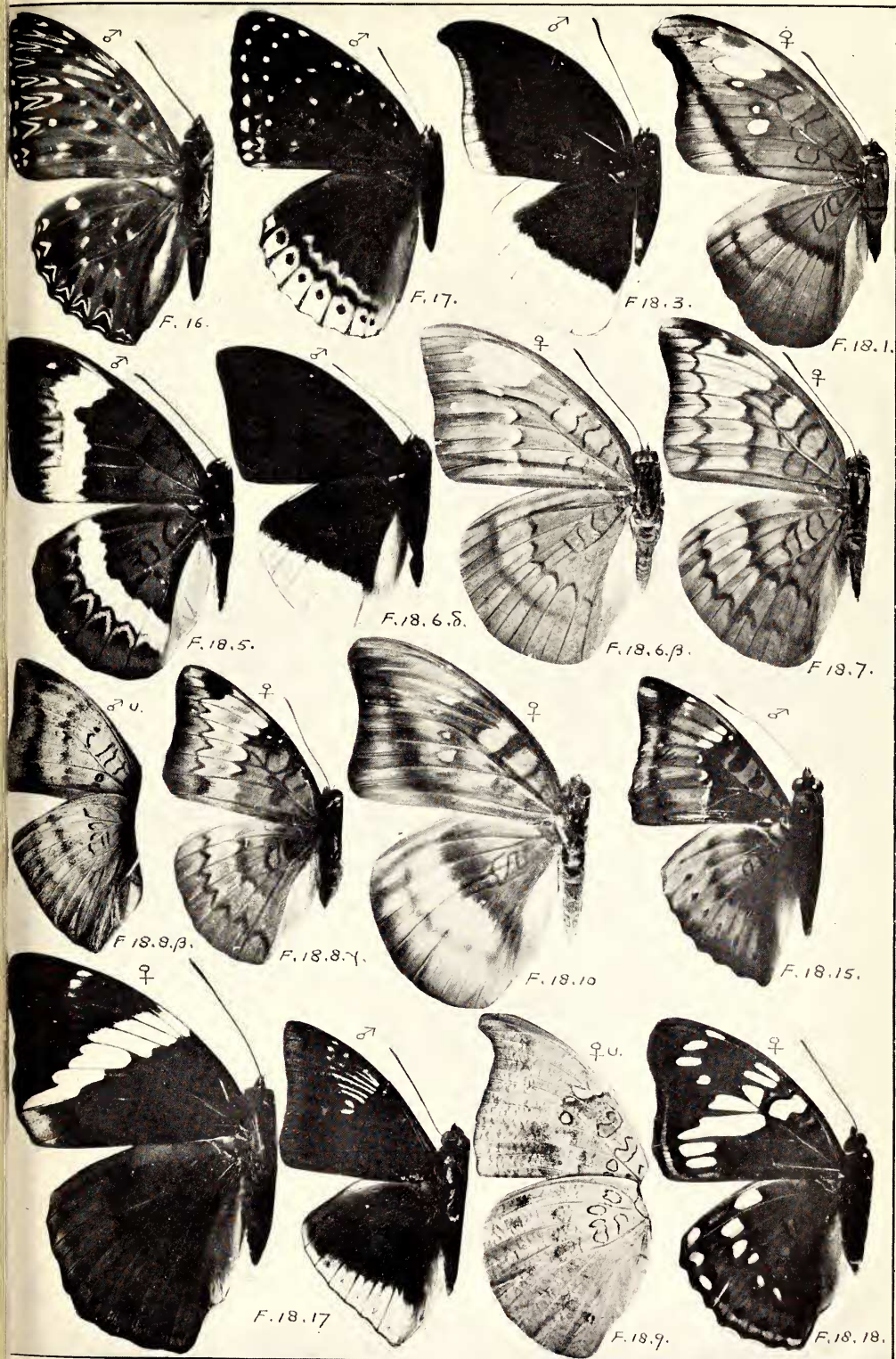
1c (4a). H termen straight to just above v3, where it is angled, giving the wing a squared appearance. F vs 11 and 12 anastomosed, 11 and 10 touch 10 & 9; 9 from mid 7. F prominently falcate. Uph ♂ a black band at bases of 6 and 7.

1d (3). Unf post discal line prominent and not parallel to termen, much nearer termen at apex than at tornus.

1 (2). Unf postdiscal line quite straight. ♂ uph with a very broad lavender grey margin extending to v5 F; upf large dark greenish spots in cell and beyond. ♀ pale brown; upf a prominent straight black band from termen at end of v7 to outer third of dorsum, continued on H behind end cell; upf apex greenish and with prominent elongated white spots in 5 and 6, smaller spot beyond in 6, minute spots in 3 and 4 and spot in 2. Below yellowish, margins not paler.

**cocytus, satrapaces*, Hew. (65-80). The Lavender Count. Manipur—S. Burma. NR.

2 (1). Unf postdiscal line sinuous. ♂ above nearly black with a pale blue border F and H; unf margin bluish; unh all dark brown ♀ above pale brown; upf large dusky white spots in 2 and 3 and elongated spots in 5 and 6, all bordered pale dusky bluish.



F. Nymphalidae. 16. *Dichorragia* : 17. *Stibochiona* : 18. *Euthalia*.

F18. Euthalia—(contd.)

godarti asoka, *Fd.* (70-80). The Malay Count. Mergui. VR.

3 (1d). Unf postdiscal line waved and parallel to termen. Sexes alike. Uph broad pale margin to v6 F. Below margins prominently paler.

a. Small; borders above very pale grey. Below clouded brown.

lepidea miyana, *Fruh.* (65-75). The Grey Count. N. Kanara, Orissa. R.

β. Larger; borders above pale grey.

**lepidea lepidea*, *But.* (70-80). Kumaon—Assam. NR.

γ. Rather smaller; borders darker grey. Below more uniform, reddish brown. ♀ upf pale brown spots beyond cell.

lepidea sthavara, *Fruh.* (65-75). N. Burma—Dawnas and Tavoy. NR.

δ. Borders above pale blue.

lepidea andersoni, *M.* (70-80). The Blue Count. Tavoy—S. Burma. NR

4a (c). H termen not angled at v3.

4 (5a). Palpi 3rd joint very long and needle like. Above rather pale brown with 2 dark, highly zigzag, discal lines filled in between with white on F. Unf outer half bluish white.

pelea, *F.* (70-80). The Malay Viscount. Mergui. VR.

5a (4). Palpi not long and needle like.

5b (8a). Palpi 3rd joint sharply attenuate. H termen evenly convex and wing symmetrical about a central axis from base to mid termen. Upf basal markings in 1 very wide and the ring under origin of v2 reaches v1. F venation as in last group, but origin v9 usually nearer base. Unh with black spots usually at bases 1, 2 and 3.

5 (6a). ♂ ♀ above with a broad white discal band F and H, outwardly bordered by conical black spots, which on H are surmounted by blue spots. Below pale green.

**cibaritis*, *Hew* (75-85). The Andaman Viscount. Andamans. NR.

6a (5). Above no continuous white band F and H; 2 dark bands parallel to one another and to the termen; these bands may be filled in between with pale colouring on F and on H may be obscured by a pale blue margin in the ♂.

6 (7). Above dark bands not conspicuously lunulated, composed more of diffuse spots.

a. ♂ uph blue margin uph to outer discal band and reaching v6. ♀ rather pale brown with whitish spots upf at the upper end of each discal band in 6. Unh ♂ torpal half green, ♀ all bluish except apex.

julii apriades, *Men.* (65-80). The Common Earl. Kumaon—Sikkim. C.

β. Larger. ♂ uph blue margin absent or narrow and broken. ♀ very variable, portion between discal bands upf may be entirely filled in whitish or may be as in last.

**julii adima*, *M.* (70-85). Khasi Hills. C.

γ. Paler and blue border uph in ♂ broader. Upf dark bands closer and in ♀ often with pale brown large spots in cell and beyond. ♀ as variable as last but smaller.

julii sedeva, *M.* (65-80). Sylhet, Cachar. Manipur and N. Burma. NR.

δ. As last, but blue border uph in ♂ still broader, reaches nearly to inner discal band. Above more uniform. ♀ as last, but dark bands H closer together. Unh ♂ and ♀ green or bluish over the whole wing or nearly so.

**julii xiphones*, *But.* (65-80). Karens—S. Burma. NR.

7 (6). Above discal bands conspicuously lunulated. ♂ rich vinaceous brown, no blue border H. ♀ pale brown, paler between the dark discal bands, often whitish on F especially at upper end. Below ♂ yellowish brown; ♀ yellow, H more or less blueish.

. Larger.

ujahnu jahnu, *M.* (65-80). The Plain Earl. Sikkim—N. Burma. NR.

β. Smaller and wings broader.